



Introduction to Transportation Systems



PART III:
TRAVELER
TRANSPORTATION



Chapter 21:

Traveler Transportation: Introduction

Traveler Transportation

- ◆ Differences between Traveler and Freight Transportation
- ◆ A Brief History of Metropolitan Areas
- ◆ Some Transportation History
- ◆ Automobile Transportation
- ◆ Intelligent Transportation System (ITS)
- ◆ Networks -- The Urban Transportation Planning Process
- ◆ Real-Time Network Control -- Some Research Ideas
- ◆ Traffic Light Synchronization
- ◆ Other Transportation Control Measures
- ◆ Deterministic Queuing
- ◆ Optimizing a Single Traffic Light
- ◆ Urban Public Transportation
- ◆ Intercity Traveler Transportation
 - ◆ Air Transportation
 - ◆ Rail Transportation
 - ◆ High-Speed Rail (HSR)
 - ◆ Mag-Lev
 - ◆ Incremental High-Speed Rail

Differences between Traveler and Freight Transportation

- ◆ The Transportation Process
- ◆ Safety and Security
- ◆ Level-of-Service Variables
- ◆ Groups
- ◆ Motivation for Travel
- ◆ Travel as Discretionary
- ◆ Success in the Marketplace

CLASS DISCUSSION

Substitutability of Communications and Transportation

- ◆ Two opposing perspectives:
 - ◆ Communications will greatly reduce the need for transportation because of the telecommuting option; people will not have to actually physically be at the office to make a contribution.
 - ◆ On the other hand, while telecommuting may occur, the economic interactions that will occur as a result of enhanced communication may generate *more* travel than is saved by the telecommuting option.

Suburbanization

CLASS DISCUSSION

Core and Garden Cities (after Lay)

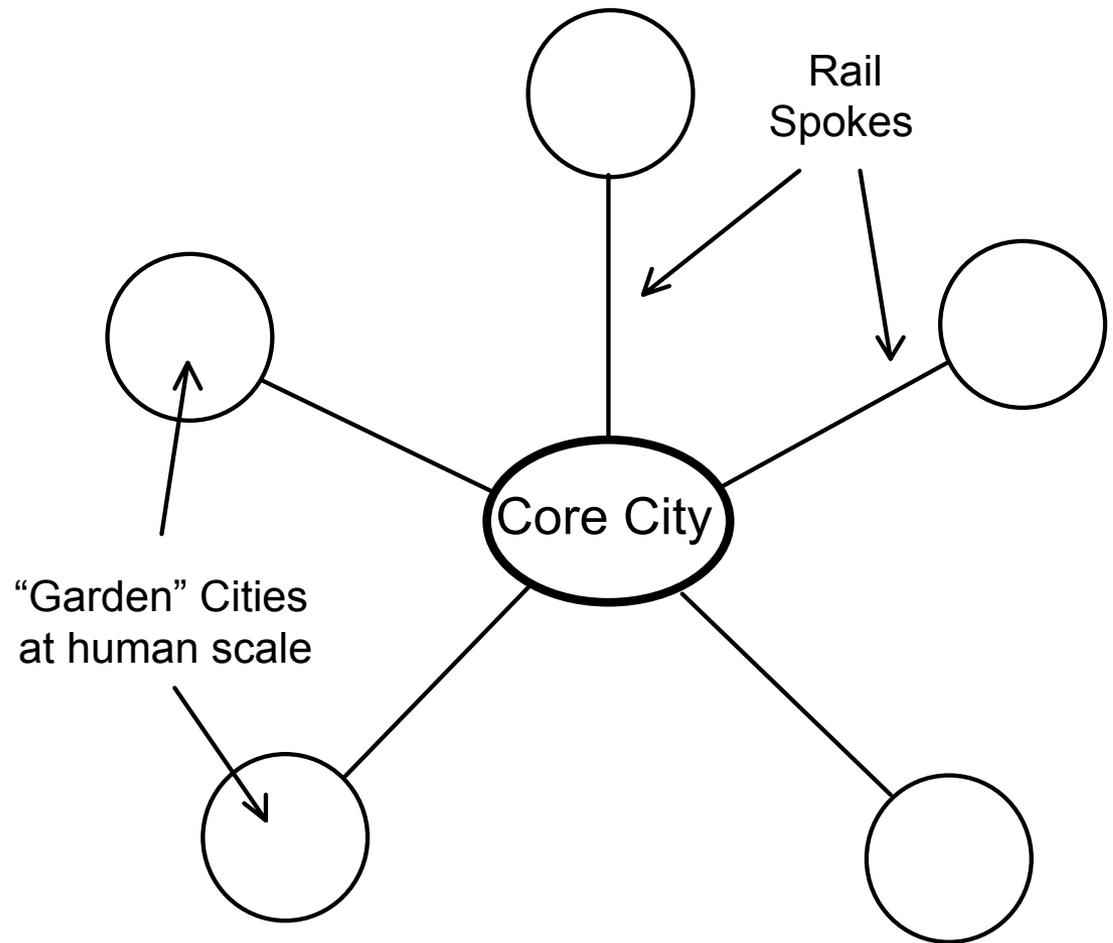


Figure 21.2

The U.S. Model

“Infill” between the “Spokes” (after Lay)

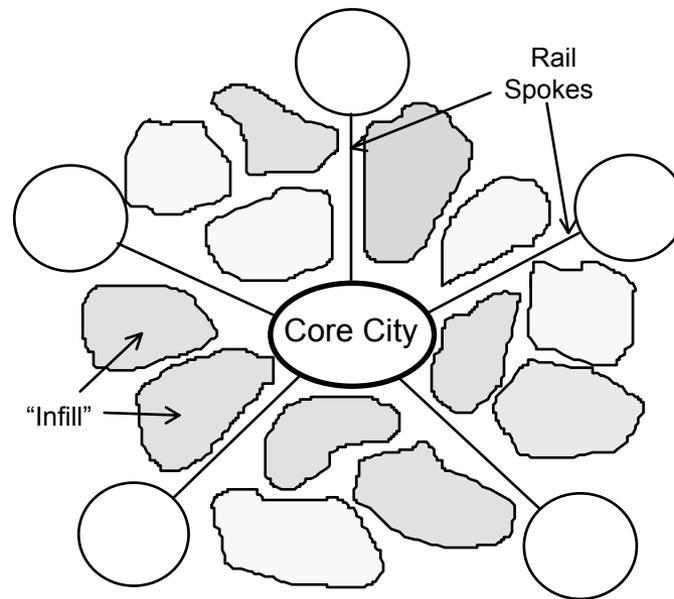


Figure 21.3

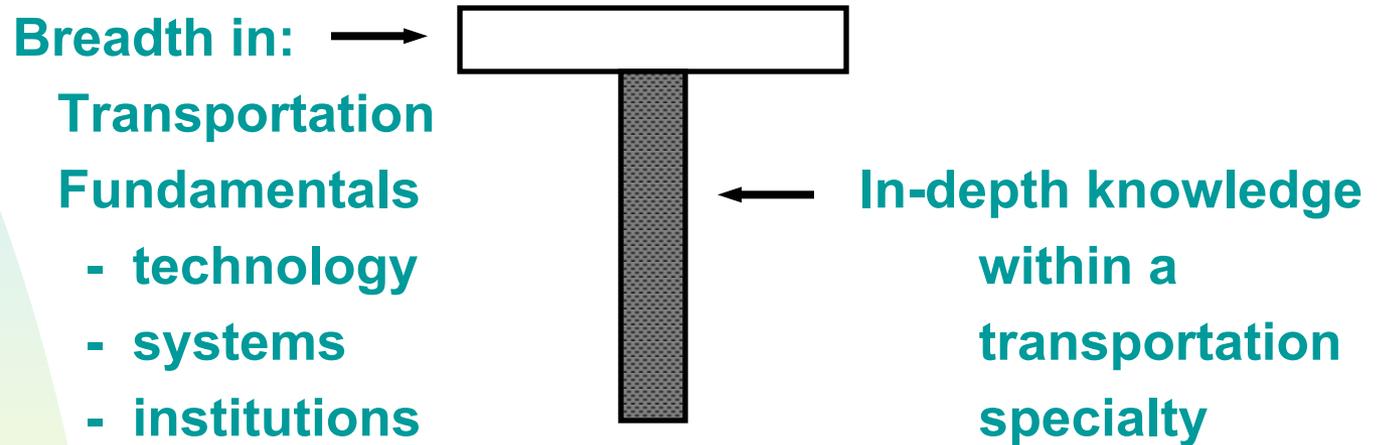
Other Urban Questions

- ◆ Mega-Cities
- ◆ Ring-Roads
- ◆ “Edge Cities”

Land Use and Public Transportation

- ◆ You cannot separate transportation policy from the way in which land is used: for residences, for shopping, for jobs. Land use and transportation are hand-in-glove.
- ◆ Low-density development patterns make providing public transportation services extremely difficult.
- ◆ Experts from the fields of *urban policy, real estate development, regional economics, municipal finance, landscape ecology, transportation, urban air quality, public health and civil engineering* are needed.

The T-Shaped “New Transportation Professional”



Sussman, Joseph M., “Educating the ‘New Transportation Professional’”, *ITS Quarterly*, Summer 1995.